In The Claims

Please amend claims 1, 6, and 15 as follows below.

The following is a complete set of claims as amended by this response.

1. (Currently Amended) A method of modifying a SPICE netlist of a circuit design using a simulation template to perform a pre-determined analysis involving circuit parameter perturbations, the method comprising:

adding a first simulation routine to said SPICE netlist to perform a reference simulation of said SPICE netlist to arrive at nominal values for selected vector measurements;

adding a perturbing routine to said SPICE netlist for altering circuit parameter values of said circuit design in a pre-determined manner;

adding a second simulation routine to said SPICE netlist for performing simulations of said circuit design for respective altered circuit parameter values to arrive at respective selected vector measurements; and

adding an analysis routine to said SPICE netlist for manipulating at least one of said selected vector measurements in accordance with said pre-determined analysis.

2. (Previously Presented) The method of claim 1, further including

adding tolerances in the SPICE netlist for said circuit parameters.

3. (Previously Presented) The method of claim 1, further including

removing parameter and vector save statements in said SPICE netlist.

4-5. (Cancelled)

6. (Currently Amended) A [[The]] method of ~~claim 1,~~ modifying a SPICE netlist of a circuit design using a simulation template to perform a pre-determined analysis involving circuit parameter perturbations, the method comprising:

adding a first simulation routine to said SPICE netlist to perform a reference simulation of said SPICE netlist to arrive at nominal values for selected vector measurements;

adding a perturbing routine to said SPICE netlist for altering circuit parameter values of said circuit design in a pre-determined manner;

adding a second simulation routine to said SPICE netlist for performing simulations of said circuit design for respective altered circuit parameter values to arrive at respective selected vector measurements; and

adding an analysis routine to said SPICE netlist for manipulating at least one of said selected vector measurements in accordance with said pre-determined analysis, wherein said pre-determined analysis includes

a sensitivity analysis involving determining a difference between said respective selected vector

measurements and said nominal values for said selected vector measurements.

7. (Previously Presented) A method of modifying a SPICE netlist of a circuit design using a simulation template to perform a pre-determined analysis involving circuit parameter perturbations, comprising:

adding a first simulation routine to said SPICE netlist to perform a reference simulation of said SPICE netlist to arrive at nominal values for selected vector measurements;

adding a perturbing routine to said SPICE netlist for altering circuit parameter values of said circuit design in a pre-determined manner;

adding a second simulation routine to said SPICE netlist for performing simulations of said circuit design for respective altered circuit parameter values to arrive at respective selected vector measurements; and

adding an analysis routine to said SPICE netlist for manipulating at least one of said selected vector measurements in accordance with said pre-determined analysis;

wherein said pre-determined analysis includes

a sensitivity analysis involving determining a difference between said respective selected vector measurements and said nominal values for said selected vector measurements, and

a root summed square analysis involving a sum of the square of said difference between said respective selected vector measurements and said nominal values for said selected vector measurements.

8. (Previously Presented) The method of claim 6, wherein

said pre-determined analysis further includes an extreme value analysis involving a determination of a maximum of said difference between said respective selected vector measurements and said nominal values for said selected vector measurements when said circuit parameter values are at their extreme tolerance values.

9. (Previously Presented) The method of claim 6, wherein

said pre-determined analysis further includes a worst case by sensitivity analysis involving a maximum of an absolute value of said difference between said respective selected vector measurements and said nominal values for said selected vector measurements.

10. (Previously Presented) A computer readable medium having stored therein a simulation template for modifying a SPICE netlist of a circuit design to perform a pre-determined analysis involving parameter perturbations, comprising:

a routine to add to said SPICE netlist for performing a reference simulation of said SPICE netlist to arrive at nominal values for selected vector measurements;

a routine to add to said SPICE netlist for altering circuit parameter values of said circuit design in a pre-determined manner;

a routine to add to said SPICE netlist for performing simulations of said circuit design for respective altered circuit parameter values to arrive at respective selected vector measurements; and

a routine to add to said SPICE netlist for manipulating at least one of said selected vector measurements in accordance with said pre-determined analysis.

11. (Previously Presented) The computer readable medium of claim 10, wherein

said simulation template further includes

a command to add tolerances in the SPICE netlist for said circuit parameters.

12. (Previously Presented) The computer readable medium of claim 10, wherein

said simulation template further includes

a command to remove parameter and vector save statements in said SPICE netlist.

13-14. (Cancelled)

15. (Currently Amended) A [[The]] computer readable medium ~~of claim 10,~~ having stored therein a simulation template for modifying a SPICE netlist of a circuit design

to perform a pre-determined analysis involving parameter perturbations, comprising:

a routine to add to said SPICE netlist for performing a reference simulation of said SPICE netlist to arrive at nominal values for selected vector measurements;

a routine to add to said SPICE netlist for altering circuit parameter values of said circuit design in a pre-determined manner;

a routine to add to said SPICE netlist for performing simulations of said circuit design for respective altered circuit parameter values to arrive at respective selected vector measurements; and

a routine to add to said SPICE netlist for manipulating at least one of said selected vector measurements in accordance with said pre-determined analysis, wherein said pre-determined analysis includes

a sensitivity analysis involving determining a difference between said respective selected vector measurements and said nominal values for said selected vector measurements.

16. (Previously Presented) A computer readable medium having stored therein a simulation template for modifying a SPICE netlist of a circuit design to perform a pre-determined analysis involving parameter perturbations, comprising:

a routine to add to said SPICE netlist for performing a reference simulation of said SPICE netlist to arrive at nominal values for selected vector measurements;

a routine to add to said SPICE netlist for altering circuit parameter values of said circuit design in a pre-determined manner;

a routine to add to said SPICE netlist for performing simulations of said circuit design for respective altered circuit parameter values to arrive at respective selected vector measurements; and

a routine to add to said SPICE netlist for manipulating at least one of said selected vector measurements in accordance with said pre-determined analysis;

wherein said pre-determined analysis includes

a sensitivity analysis involving determining a difference between said respective selected vector measurements and said nominal values for said selected vector measurements, and

a root summed square analysis involving a sum of the square of said difference between said respective selected vector measurements and said nominal value for said selected vector measurements.

17. (Previously Presented) The computer readable medium of claim 15, wherein

said pre-determined analysis further includes

an extreme value analysis involving a determination of a maximum of said difference between said respective selected vector measurements and said nominal values for said selected vector measurements when said circuit parameter values are at their extreme tolerance values.

18. (Previously Presented) The computer readable medium of claim 15, wherein
said pre-determined analysis further includes
a worst case by sensitivity analysis involving a maximum of an absolute value of said difference between said respective selected vector measurements and said nominal values for said selected vector measurements.

19. (Previously Presented) The method of claim 1, wherein
said circuit parameter values of said circuit design are one of resistance of a resistor, capacitance of a capacitor, and inductance of an inductor.

20. (Previously Presented) The method of claim 1, wherein
said at least one selected vector measurement is voltage at a node of said circuit design.

21. (Previously Presented) The method of claim 1, wherein
said at least one selected vector measurement is current along a branch of said circuit design.

22. (Previously Presented) The method of claim 1, wherein

said at least one selected vector measurement is power dissipation in a component of said circuit design.

23. (Previously Presented) The method of claim 22, wherein

said component of said circuit design is one of a resistor, a capacitor, and an inductor.

24. (Previously Presented) The method of claim 1, wherein

only one circuit parameter value of said circuit design is altered at a time by the perturbing routine.

25. (Previously Presented) The computer readable medium of claim 10, wherein

said circuit parameter values of said circuit design are one of resistance of a resistor, capacitance of a capacitor, and inductance of an inductor.

26. (Previously Presented) The computer readable medium of claim 10, wherein

said at least one selected vector measurement is voltage at a node of said circuit design.

27. (Previously Presented) The computer readable medium of claim 10, wherein

said at least one selected vector measurement is current along a branch of said circuit design.

28. (Previously Presented) The computer readable medium of claim 10, wherein

said at least one selected vector measurement is power dissipation in a component of said circuit design.

29. (Previously Presented) The computer readable medium of claim 28, wherein

said component of said circuit design is one of a resistor, a capacitor, and an inductor.

30. (Previously Presented) The computer readable medium of claim 10, wherein

only one circuit parameter value of said circuit design is altered at a time by the perturbing routine.

31. (Previously Presented) A method of analyzing a SPICE netlist of a circuit design, the method comprising:

(a) providing a SPICE netlist of a circuit design;

(b) selecting a selected vector measurement of the circuit design;

(c) simulating the SPICE netlist of the circuit design using nominal circuit parameter values to determine a nominal vector measurement associated with the selected vector measurement;

(d) altering at least one circuit parameter value of a component in the SPICE netlist in a pre-determined manner to generate at least one altered circuit parameter value;

(e) simulating the SPICE netlist of the circuit design with the at least one altered circuit parameter value to

determine an altered vector measurement associated with the selected vector measurement;

(f) repeating steps (d) and (e) with the at least one circuit parameter value to generate a plurality of altered circuit parameter values and to determine a plurality of altered vector measurements of the circuit design; and

(g) determining a difference between the plurality of altered vector measurements and the nominal vector measurement to generate a sensitivity in the vector measurement of the circuit design in response to alterations in the at least one circuit parameter value of the component in the SPICE netlist.

32. (Previously Presented) The method of claim 31, wherein

a simulation template is used to perform steps (b)-(g).

33. (Previously Presented) The method of claim 31, wherein

the at least one circuit parameter value of the component in the SPICE netlist is altered within a tolerance of the component.

34. (Previously Presented) The method of claim 31, wherein

the at least one circuit parameter value of a component is one of resistance of a resistor, capacitance of a capacitor, and inductance of an inductor.

35. (Previously Presented) The method of claim 31, wherein

the vector measurement of the circuit design is one of voltage at a node, current along a branch, and power dissipation in the component.

36. (Previously Presented) The method of claim 31, wherein

only one circuit parameter value of said circuit design is altered at a time.

37. (Previously Presented) A method of analyzing a SPICE netlist of a circuit design, the method comprising:

(a) providing a SPICE netlist of a circuit design;

(b) selecting a selected vector measurement of the circuit design;

(c) simulating the SPICE netlist of the circuit design using nominal circuit parameter values to determine a nominal vector measurement associated with the selected vector measurement;

(d) altering at least one circuit parameter value of a component in the SPICE netlist in a pre-determined manner to generate at least one altered circuit parameter value;

(e) simulating the SPICE netlist of the circuit design with the at least one altered circuit parameter value to determine an altered vector measurement associated with the selected vector measurement;

(f) repeating steps (d) and (e) with the at least one circuit parameter value to generate a plurality of altered

circuit parameter values and to determine a plurality of altered vector measurements of the circuit design;

(g) determining a difference between the plurality of altered vector measurements and the nominal vector measurement to generate a sensitivity in the vector measurement of the circuit design in response to alterations in the at least one circuit parameter value of the component in the SPICE netlist; and

(h) determining a sum of the differences between the plurality of altered vector measurements and the nominal vector measurement, squaring the sum of the differences, and taking the square root of the squared sum of the differences to determine a root summed square (RSS) for the vector measurement of the circuit design in response to alterations in the at least one circuit parameter value of the component in the SPICE netlist.

38. (Previously Presented) The method of claim 31, wherein

the at least one circuit parameter value is altered to a maximum value and the SPICE netlist of the circuit design is simulated to determine a first altered vector measurement, and

the at least one circuit parameter value is altered to a minimum value and the SPICE netlist of the circuit design is simulated to determine a second altered vector measurement,

and the method further comprises

determining a maximum of a first absolute value of the first altered vector measurement less the nominal

vector measurement and a second absolute value of the second altered vector measurement less the nominal vector measurement to determine an extreme value analysis (EVA) for the vector measurement of the circuit design.

39. (Previously Presented) The method of claim 31, further comprising:

determining scalar differences between the plurality of altered vector measurements and the nominal vector measurement,

taking the absolute value of the scalar differences to generate absolute scalar differences,

determining a maximum value of the absolute scalar differences to determine a worst case by sensitivity (WCS) for the selected vector measurement of the circuit design.

40. (Previously Presented) The method of claim 1, wherein

said circuit parameter value of said circuit design is one of impedance, admittance, gain, and trans-impedance of an electronic component.

41. (Previously Presented) The method of claim 40, wherein

said electronic component is an active electronic component.

42. (Previously Presented) The method of claim 40, wherein

said electronic component is a passive electronic component.

43. (Previously Presented) The computer readable medium of claim 10, wherein

said circuit parameter value of said circuit design is one of impedance, admittance, gain, and trans-impedance of an electronic component.

44. (Previously Presented) The computer readable medium of claim 43, wherein

said electronic component is an active electronic component.

45. (Previously Presented) The computer readable medium of claim 43, wherein

said electronic component is a passive electronic component.

46. (Previously Presented) The method of claim 31, wherein

the at least one circuit parameter value of a component is one of impedance, admittance, gain, and trans-impedance of an electronic component.

47. (Previously Presented) The method of claim 46, wherein

the electronic component is an active electronic component.

48. (Previously Presented) The method of claim 46, wherein

the electronic component is a passive electronic component.